



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,362	12/22/2003	David M. Scoville	00655P1218US	7971

7590 09/21/2004

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER  
Citicorp Center, Suite 3800  
500 West Madison Street  
Chicago, IL 60661-2511

EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
----------	--------------

3743

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/743,362

Applicant(s)

SCOVILLE ET AL.

Examiner

Tho v Duong

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003 and 5/27/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-8, drawn to an invention of a multi-fluid heat exchanger, classified in class 165, subclass 140.
- II. Claims 9-15, drawn to an invention of a method of making a multi-fluid heat exchanger, classified in class 29, subclass 890.03.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by another and material different process such as the process without the step of compressing the core.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Jeffery Fairchild on 9/17/2004 a provisional election was made without traverse to prosecute the invention of I, claims 1-8. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9-15 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 3743

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Drawings*

The drawings are objected to because all the lines and reference numerals in the drawing are rough and non-uniform. The descriptive words in the Figures are also not legible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As regarding claim 1 and 5, the claimed subject matter of "a pair of baffles in each header, one on one side of said one tube slot and between the adjacent tube slot ... between the adjacent tube slot on said opposite end" and "one on one side of said weep hole and between and adjacent tube slot...on said opposite side" render the scope of the claim indefinite since it is not clear how one baffle can be between a single "the adjacent tube slot on said one side".

Claim 2 recites the limitation "said adjacent tube slots" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. It is not clear if applicant is referring "said adjacent tube slots" to "the adjacent tube slot" disclosed in claim 1, at lines 14 and 15 or to a plurality of adjacent tube slots within each group tube.

Claims 1-8 are further rejected as can be best understood by the examiner in which the one baffle is between the adjacent tube slot and the one tube slot.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

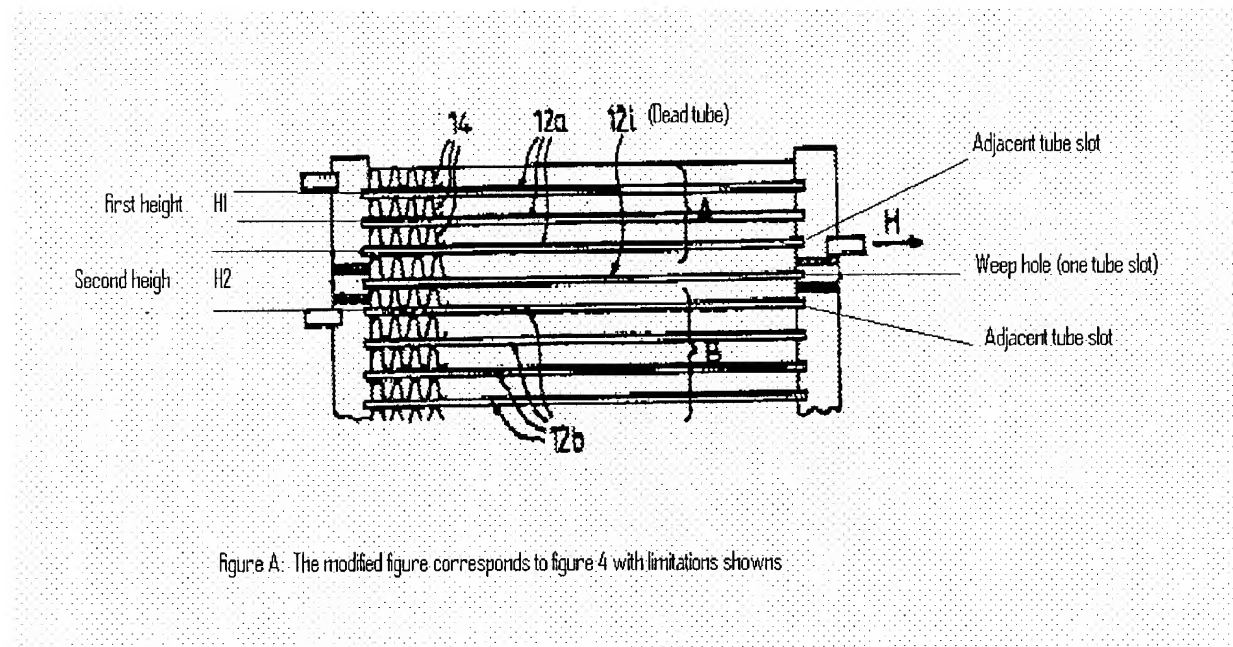
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3743

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Marsais (US 6,394,176). Marsais discloses (figure 4) a multi-fluid heat exchanger having separate flow paths for at least two fluid streams, comprising first and second, elongated, spaced, parallel tubular headers (16,18) having opposite ends; spaced elongated tube slots in each of the headers with the tube slots in one header facing and aligned with the tube slots in the other header; a plurality of flattened tubes (12a,12b) extending between the headers and having ends receiving in aligned ones of the tube slots; one tube slot, which is inserted by a dead tube (12i), in each of header being unoccupied by any one of the flattened tubes (12a,12b); the one tube slots in each header being aligned with each other and located at a predetermined location between the ends of the headers and between two groups of the flattened tubes (12a,12b); a pair of baffles (20) in each header, one on one side of the one tube slot and between the adjacent tube slot on the one side and the other baffle on the opposite side of the one tube slot and between the adjacent tube slot on the opposite side; there are two group of tubes (A,B) and serpentine fins (14) extending between and in heat transfer relation with at least the adjacent tubes in each of the two groups; an additional fin (14) in heat transfer relation with an end tube in each of the two groups (A,B), one of end tubes being in the adjacent tube slots on the one side and the other of the end tubes being in the adjacent tube slots on the opposite side. Marsais further discloses that the tube slots associated with the two groups (A,B) are generally uniformly spaced in each of the headers. Marsais further discloses (figure 4 and figure A as follows) that the first serpentine fins (14), which disposed within the two group tubes (A,B), has a first height and extends between and bonded to the adjacent tubes in each of the two group tubes (A,B); and a second additional

Art Unit: 3743

serpentine fins, which disposed outside of two group tubes (A,B), has a second height being equal to about twice the first fin height plus the minor dimension of the tube.



### Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kokubunji et al. (US 2002/0040776A1) discloses a heat exchanger that has weep hole for leaking.

F. M. Young (US 2,037,845) discloses a radiator with hole disposed between two partitions in a header.

Bergins et al. (US 5,881,456) discloses a header tubes for heat exchanger.

Friedrich et al. (JP 09-152296) discloses a heat transfer device having at least two types of heating medium.

Art Unit: 3743

Kameoka Teruhiko (JP 05272889A) discloses a pair of baffles and a hole between the baffle.

Nishishita et al. (EP 0859209A1) discloses a heat exchanger and a plurality of baffles in headers.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

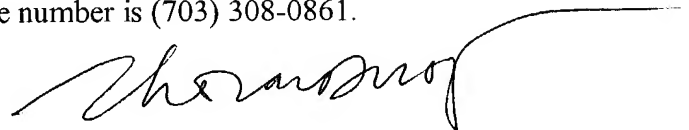
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



TD

September 17, 2004



Tho Duong

Patent Examiner.